

Serial No.: 10/691,330

Confirmation No.: 1384

Filed: October 22, 2003

For: USE OF COLOSTRININ, CONSTITUENT PEPTIDES THEREOF, AND ANALOGS THEREOF AS
INHIBITORS OF APOPTOSIS AND OTHER CELLULAR DAMAGE

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Previously Presented) A method for inhibiting apoptosis in a cell, the method comprising contacting the cell with an effective amount of an apoptosis inhibitor selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof; wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPPV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPFPKLKVEVFPFP (SEQ ID NO: 8); and wherein the apoptosis inhibitor inhibits apoptosis in the cell.
2. (Original) The method of claim 1 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.
3. (Original) The method of claim 1 wherein the cell is a mammalian cell.
4. (Original) The method of claim 3 wherein the cell is a human cell.
5. (Previously Presented) The method of claim 1 wherein the inhibitor is colostrinin.
6. (Previously Presented) The method of claim 1 wherein the inhibitor is a constituent peptide of colostrinin selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPPV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), LKPFPKLKVEVFPFP (SEQ ID NO:8), and combinations thereof.

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7. (Canceled)

8. (Previously Presented) The method of claim 1 wherein the apoptosis is due to DNA damage.

9-11. (Canceled)

12. (Previously Presented) A method for protecting against DNA damage in a cell, the method comprising contacting the cell with an effective amount of a compound selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPFPKLKVEVFPFP (SEQ ID NO: 8);
and wherein the compound protects the cell against DNA damage.

13. (Original) The method of claim 12 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

14. (Original) The method of claim 12 wherein the cell is a mammalian cell.

15. (Original) The method of claim 14 wherein the cell is a human cell.

16-24. (Canceled)

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25. (New) A method for inhibiting apoptosis in a cell, the method comprising
contacting the cell with an effective amount of an apoptosis inhibitor selected from the
group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;
wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-34;
and wherein the apoptosis inhibitor inhibits apoptosis in the cell.
26. (New) A method for protecting against DNA damage in a cell, the method comprising
contacting the cell with an effective amount of a compound selected from the group consisting of
colostrinin, a constituent peptide of colostrinin, and combinations thereof;
wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-34;
and wherein the compound protects the cell against DNA damage.
27. (New) A method for reducing the toxic effect of β -amyloid on a cell, the method
comprising contacting the cell with an effective amount of a compound selected from the group
of colostrinin, a constituent peptide thereof, and combinations thereof;
wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:1-34.
28. (New) A method for reducing the toxic effect of retinoic acid on a cell, the method
comprising contacting the cell with an effective amount of a compound selected from the group
of colostrinin, a constituent peptide thereof, and combinations thereof wherein the constituent
peptide of colostrinin is selected from the group consisting of SEQ ID NO:1-34.
29. (New) A method for inducing a cytokine in a cell, the method comprising contacting the
cell with an immunological regulator under conditions effective to induce a cytokine, wherein

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the immunological regulator is selected from the group consisting of a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-33.

30. (New) A method for modulating an immune response in a cell, the method comprising contacting the cell with an immunological regulator under conditions effective to induce a cytokine, wherein the immunological regulator is selected from the group consisting of a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-33.

31. (New) A method of modulating an intracellular signaling molecule in a cell, the method comprising contacting the cell with an effective amount of a modulator selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof, under conditions effective to accomplish at least one of the following:

reduce 4-hydroxynonenal (4HNE)-protein adduct formation;

inhibit 4HNE-mediated glutathione depletion;

inhibit 4HNE-induced activation of p53 protein; or

inhibit 4HNE-induced activation of c-Jun NH₂-terminal kinases;

wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-34.

32. (New) A method of down regulating the 4-hydroxynonenal (4HNE)-mediated oxidative damage associated with lipid peroxidation in a cell, the method comprising contacting the cell with an effective amount of a modulator selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof;

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wherein the constituent peptide of colostrinin is selected from the group consisting of
SEQ ID NO:9-34;

and wherein 4HNE-mediated oxidative damage associated with lipid peroxidation in the
cell is down regulated.